METHOD, SYSTEM AND ARTICLE OF MANUFACTURE FOR RECOVERY FROM A FAILURE IN A CASCADING PPRC SYSTEM

ABSTRACT

[81]   A method of recovery from a data storage system failure in a data storage system having a host computer writing data to a first storage unit with a first storage controller synchronously mirroring the data to a second storage unit, and with a second storage controller asynchronously mirroring the data to a third storage unit. The method begins with the detection of a failure associated with the first storage unit. Upon detection of the error or failure associated with the first storage unit, the synchronous data mirroring relationship between the first storage unit and the second storage unit is terminated and the host is directed to write data updates directly to the second storage unit. Upon correction of the failure associated with the first storage unit, the asynchronous mirroring of data updates from the second storage unit to the third storage unit is suspended and synchronous mirroring of the data updates in a reverse direction, from the second storage unit to the first storage unit, is commenced. When a full duplex state is reached between the first storage unit and the second storage unit, the synchronous PPRC relationship with the first storage volume mirroring data to the second storage volume may be reestablished and host I/O writes to the first storage unit may be resumed.